The cabin crew on board the commercial aircraft of today are an essential component in pilot decision-making and the prevention of aviation accidents. However, government and industry have persisted in the perception of the primary roles of the flight attendant as service and survivability. Moreover, the cockpit and cabin crews of today have evolved into two distinct cultures (Chute & Wiener, 1994). These factors have resulted in communication and coordination problems which have jeopardized flight safety.

In 1989, 24 people died when an Air Ontario jet crashed on takeoff from Dryden, Ontario due to wing contamination. Despite concern on the part of the flight attendants, they did not notify the pilots because they had been trained to trust the judgment of the pilots and not to question it. Additionally, past experience had shown that pilots treated operational concerns expressed by the cabin crew with disdain. The Board of Inquiry cited the organizational policy of Air Ontario that reinforced the suppression of operational information by the flight attendants (Moshansky, 1992).

In 1988, on approach into Nashville, an American Airlines flight attendant and an off-duty first officer notified the cockpit of smoke in the cabin. The captain was skeptical of their report of smoke as there had been a problem with the auxiliary power unit (APU) on a prior flight which resulted in fumes. This time the problem was the result of improperly packaged hazardous materials. Even when informed that the floor was becoming soft and passengers had been reseated, the cockpit crew persisted in refusing to acknowledge that there was serious jeopardy to the aircraft and their passengers. No in-flight emergency was declared. Consequently, the aircraft was not evacuated immediately on landing, exposing the crew and passengers to the threat of smoke and fire longer than necessary. The NTSB determined the cabin crew used CRM techniques well; however the cockpit crew did not. The NTSB found a "deficiency in communication between the cockpit and cabin crews and expressed concern about the reluctance by the captain to accept either crew member's report as valid or to seek additional information." (NTSB, 1988).

Our past research has shown that crews do not see themselves as one team, but rather as two crews with separate responsibilities. This division can result in territorial, and even hostile, attitudes. For example, when on a flight conducting field research, I observed a situation where the refusal of the flight engineer to check out an inoperational lav resulted in the cabin crew withholding food from the pilots. Food seemed to be the only currency the flight attendants had to express their frustration. However, both crews brought the aircraft in on a five-hour leg, and I picked it up on a subsequent five-hour leg. During that flight, the pilots were only given nuts for sustenance out of retaliation. Is it reasonable to assume that in an abnormal situation the crews would have transferred information to each other without hesitation? Moreover, in an emergency would those crew members have instantly united and trusted one another?
We have identified five factors which either created or perpetuate barriers between the two cultures: Historical background, physical separation, psychosocial issues, regulatory factors, and organizational factors (Chute & Wiener, in press). Some manifestations of these influences are: discrepancies in manuals and procedures; attitudes such as distrust, alienation, and skepticism; withholding important safety of flight information due to fear of rebuke or disciplinary action; an unawareness of the other’s duties during flight; and insufficient technical knowledge on the part of the cabin crew to communicate with optimal effectiveness and timeliness regarding aircraft anomalies.

It should be emphasized that, in addition to survivability duties post-crash, flight attendants also have a significant preventive role which has been discounted. This is where effective bi-directional communication becomes vital. Flight attendants are sometimes privy to abnormal sights and sounds in the aircraft of which the pilots are unaware. Automated flight decks and the two-pilot crew have accentuated the role of the flight attendants in the detection and reporting of mechanical anomalies aft of the cockpit door which was formerly the province of the flight engineer. On long flights, especially at night, flight attendants can play a significant role in aiding pilots’ vigilance with periodic checks and conversation. Additionally, the serving of food to the pilots can, and should, be viewed as a safety duty (as evidenced by my flight experience related earlier). It is the safety, rather than the service, duty of the cabin crew to ensure that the pilots are as alert and properly nourished as possible. The cabin crew can also ameliorate potentially serious situations, such as fires, troublesome passengers, and medical emergencies by timely and coordinated actions. Any impediment in the teamwork of the cockpit and cabin crews can lead down a slippery slope to an unmanageable crisis. Currently, the types of data collected (primarily post-crash and survivability data) do not reflect the preventive responsibilities of the cabin crew nor the nature of interactions between the crews and the proactive role of the flight attendants.

In addition to generating our own data, we review accident and incident reports from the NTSB and ASRS. Yet there is a dearth of information collected in any systematic manner on the interface between the cockpit and cabin crews. The NASA Aviation Safety Reporting System has developed, with the assistance of the Cabin Safety Issues Identification Team (Nora Marshall, Pat Coleman, and myself), a cabin crew reporting form that will greatly enhance our knowledge of the safety issues that transpire aft of the cockpit (e.g. turbulence injuries, mechanical malfunctions, passenger disruptions, etc.). Additionally, this information would supplement cockpit/cabin communication reports that are already being received from pilots by giving a more complete picture instead of the limited view currently available. For example, Vicki Hoang and I recently conducted an analysis of cabin turbulence injuries by categorizing and analyzing 79 ASRS reports (Hoang & Chute, in press). However, not one report was a first-person account by a witness in the cabin. Data is also needed that illuminates any flight attendant reluctance or pilot resistance in the information-transfer system.

The importance of the focus of human factors research for the next decade moving into cockpit and cabin crew coordination was underscored in the following statement by Chidester (1993): "The unit of analysis should become the flight deck and cabin crew. Almost every safety problem encountered on one side of the cockpit door soon becomes a problem for the other. Coordination between these parts of the crew has been assumed in the operational community and un studied by the research community." Additionally, the National Plan for Civil Aviation Human Factors (1995) cites “coordination between the flight deck and cabin crews in abnormal situations” as a specific research need. The research begun by Chute and Wiener, necessarily scratches the surface of the deeper investigation needed in these
critical areas. Increased emphasis on the importance of the interface between the two crews, the preventive responsibilities of the cabin crew, a corresponding increase in available, relevant data, and support for future studies will ensure that cockpit/cabin deficiencies do not continue to jeopardize flight safety.

References


